

sented by the author ; Göttingen, Astronomische Mittheilungen der k. Sternwarte, IV. W. Schur, Oerter der helleren Sterne der Praesepe, presented by the Observatory ; B. d'Engelhardt, Observations faites dans son observatoire à Dresde, III., presented by M. d'Engelhardt ; C. Mönnichmeyer, Beobachtungen von Nebelflecken, presented by the Bonn Observatory ; five original negatives of the Moon, and photograph of *Saturn*, presented by the Lick Observatory ; lantern slide of the *Hercules* cluster, presented by Mr. W. E. Wilson ; lantern slide from photograph of a meteor, presented by Mr. C. P. Butler ; two photographs of the 28-inch equatorial, presented by the Astronomer Royal ; photograph from a drawing of the Moon by John Russell, R.A., presented by Mr. E. J. Stone ; and photograph of the nebula M 33 *Trianguli*, presented by Dr. Roberts.

The Mont Blanc Observatory.

The President and Council of the Royal Society have communicated to the Council of this Society the following letter from M. Janssen, which is printed here (according to a resolution of Council on December 13) for the information of Fellows :—

Meudon, 25 octobre, 1895.

MONSIEUR LE PRÉSIDENT,

J'ai l'honneur d'offrir à la Société le premier tirage du Compte Rendu de ma dernière ascension à l'Observatoire du Mont Blanc.

Je saisais cette occasion pour assurer aux savans anglais qui voudraient bien faire des travaux à l'Observatoire que nous ferions tout ce qui dépendrait de nous pour leur faciliter ces travaux dont nous serions heureux.

(Signed) J. JANSSEN.

A Universal Catalogue or Subject Index.

The following letters have been received from the Royal Society and referred by the Council of this Society to the Secretaries, as Editors of the Society's publications :—

I.

The Royal Society,
Burlington House,
December 3, 1895.

DEAR SIR,

The International Catalogue Committee of the Royal Society, which is engaged in considering steps for the due indexing of scientific literature, has requested the Council of the

Dec. 1895.

or *Subject Index.*

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Royal Society to arrange that in the *Philosophical Transactions* and *Proceedings* of the Royal Society each paper should be accompanied by such a statement of its contents as would serve for use in the preparation of a subject index. If this were generally done the preparation of a subject index would be greatly helped, and I am directed by the Committee to suggest the same course of action to your Society, as well as to all the other principal scientific societies.

Yours truly,

M. FOSTER, Sec. R.S.

The Secretary,
Royal Astronomical Society.

II.

The second letter is a circular letter addressed by the Secretaries of the Royal Society to its Fellows (and others), illustrating more explicitly what is required.

Royal Society,
Burlington House, London, W.

DEAR SIR,

Seeing that the title only of a paper is in most cases insufficient as a guide to its proper classification in a subject index—several topics, each demanding a separate entry, being often treated of in one paper—the President and Council of the Royal Society, with the view of facilitating the preparation of subject indices to scientific papers published by them, have resolved to ask every author communicating a paper to the Royal Society to add a condensed statement of the topics treated of, such as would facilitate the proper references to his paper in a subject index.

We subjoin a specimen statement which may help to explain what is intended.

We are,

Yours faithfully,

M. FOSTER, }
RAYLEIGH, } *Secretaries.*

BLACKMAN, F. F.

ORIGINAL TITLE
FOR AUTHOR'S
INDEX.

Experimental Researches on Vegetable Assimilation and Respiration.
No. I.—New Method for investigating the Carbonic Acid Exchanges of Plants.
No. II.—Paths of Gaseous Exchange between Aërial Leaves and the Atmosphere.

SUBJECT INDEX.

- Assimilation, vegetable.
- Carbonic acid absorbed and given out by leaves, estimation of.
- " exhaled from leaves by stomata alone.
- " solubility in oils, &c.
- Gaseous exchanges in plants.
- Leaves, paths of gaseous exchange.
- Plants, gaseous exchanges of.
- Respiration, vegetable.
- Stomata, site of exhalation of carbonic acid.

In accordance with the suggestions contained in these letters, the Secretaries would ask authors of papers intended for publication by this Society to enclose with each paper a "condensed statement of the topics treated of." It will probably be some little time before a satisfactory uniform system is arrived at, and the Secretaries will welcome any suggestions which may conduce to this desirable end. For the present the particulars furnished by the authors themselves will generally be printed as they stand ; or if any additions are made by the Editors these will be clearly indicated.

E. W. MAUNDER,
H. H. TURNER, } *Secretaries.*

Note on Hansen's Lunar and Planetary Theories. By Professor Ernest W. Brown.

The integration of the equations for the mean anomaly and the radius vector in Hansen's lunar theory depend chiefly on the calculation of a certain function \bar{W} which has the value *

$$\bar{W} = -1 - \frac{h_o}{h} + 2 \frac{h}{h_o} \frac{\bar{r}}{a_o} \frac{1 + e \cos(\bar{f} + n_o y t + \pi_o - \chi)}{1 - e_o^2}.$$

In this expression h , e , χ refer to the instantaneous ellipse, and therefore, in disturbed motion, they are implicit functions of the time ; h_o , n_o , y , π_o are absolute constants referring to a certain auxiliary ellipse, of constant size and shape, situated in the plane of the instantaneous orbit, the mean anomaly of this ellipse being denoted by $n_o z$. In undisturbed motion, $n_o z$ is of the form, $n_o t + \text{const.}$; in disturbed motion, $n_o z$ contains, in addition, terms depending on the action of the Sun, and it is therefore a function of the time. The symbols \bar{r} , \bar{f} denote the radius vector and true anomaly of the point on the auxiliary ellipse where the latter is cut by the radius vector of

* *Darlegung der theoretischen Berechnung, &c., Abh. der K. Sächs. Ges. der Wiss.* vol. vi. p. 104.